REMARKS/ARGUMENTS

This application has been carefully considered in light of the Non-Final Office Action mailed November 28, 2008. A one month extension of time is submitted herewith.

Claims 1, 6, 7, 9, 12, 18, 21 and 22 have been rejected under 35 U.S.C. 103(a) as being obvious over US Patent 4,973,219 to Brickner et al when considered in light of the teachings of JP 07172317 to Yamashita and further in view of Sommer, US Patent 3,498,477. Claim 8 has been rejected over Brickner et al when considered in view of the teachings of Yamashita and Sommer when considered with the further teachings of US Patent 6,161,887 to Shiota.

Claims 19 and 23 have been rejected for obviousness over a combination of the teachings of Brickner et al in view of Yamashita when considering the additional structure disclosed in US Patent 5,915,906 to Lucking.

Claim 20 has been rejected over a combination of Brickner et al, Yamashita and Sommer when considered with the teachings of Lucking, US Patent 5,915,906 and Shiota. Claims 24 and 25 have been rejected as being obvious over a combination of Brickner et

al and Nordstrom, US Patent 4,043,285 when further considered in light of the teachings of Yamashita and Sommer.

The Examiner has indicated that claims 3 and 5 are allowed and that claims 10, 11 and 13 are directed to allowable subject matter and would be allowed if amended to include the limitation of the base claim and any intervening claims.

The reference to Brickner et al has been further considered and it is respectfully submitted that it would not be obvious to modify the track system therein to create a system of first and second pairs of parallel tracks that intersect in an X-Y pattern so that the transfer unit 14 therein may move above all the storage cells in an X motion on the first set of tracks and in a Y motion along the second set of tracks, as is the case with the present invention. Further, it is not believe the Brickner et al system is compatible with the systems taught by either Yamashita and/or Sommer. The Examiner points out that the parallel tracks that pass over the storage cells in Brickner et al are first tracks that intersect with second tracks at the ends of the first tracks. This track arrangement only permits the transfer unit 14 to move from one of the longitudinally extending tracks to an outer track so that the unit moves in a loop manner that has no X-Y motion above the storage cells themselves.

It is respectfully submitted that it would not be obvious to modify Brickner et al as the transfer unit thereof can not be easily modified to maneuver in an X-Y manner. The entire support and drive assembly in Brickner et al is specifically designed for the pivoting boggie motion shown in Fig. 7 of the reference or the monorail motion shown in Fig. 8 thereof. Both of these support and drive assemblies require curved track sections to allow the transfer unit to transition from the longitudinal tracks to the outer loop tracks. If one were to use the track system of Yamashita with Brickner et al, the entire support and tracking system of Brickner et al would have to be re-engineered. It is respectfully submitted that the two structures are so radically different that one of ordinary skill in the art would not look to modify the basic support and track systems of one, to modify the support and track system of the other.

In Brickner et al, the transfer unit is not designed to permit X-Y motion in a plane directly over each of the vertical tiers of cells and the track system does not have first and second tracks that transversely intersect with one another directly above the cells. With the present invention, the transfer units may selectively move in an "X-Y' motion directly above a plurality of vertical cells so that there is no need to move in large loops relative to the underlaying cells. Rather,

in Brickner et al, the track system is formed of loops with switching mechanisms provided between the loops as described at column 7 beginning at line 38 of the reference. The X-Y movement of applicants' system is important to allow transfer units to move efficiently above any of the cells with the ability to move about other units within the track system quickly, see paragraphs 0040, 0044 and 0061 of the current application.

As previously noted, in Brickner et al, if one shuttle approaches another along one of the monorails, the shuttles must either follow one another or move in reverse directions and there is no provision for lateral movement without moving in complete loops which results is wasted time and increased wear and tear on the system components and the shuttle.

The Examiner has recognized that Brickner et al does not disclose the first and second pairs of parallel tracks and thus relies on the teachings of Yamashita and states that it would be obvious to modify Brickner et al to use intersecting "X-Y" tracks. It is respectfully submitted that it would not be obvious to try to make the combination suggested as the grid track system of Yamashita is not compatible to the boggie or monorail systems of Brickner et al. The entire drive system, suspension system and switching system in Brickner is specific to

the looped boggie or monorail system and could not be easily altered to accommodate an intersecting rail system. Further, as previously discussed in response to earlier rejections, the cross rails in Yamashita are not opened at the intersections but are closed by direction changing plates 6. In order to change the direction of movement of the ring rail 7, the ring rail of Yamashita must be supported by four plates 6 which all must be rotated in unison while carrying whatever weight is placed on the ring rail. Such a direction altering structure could not be obviously combined with the system of Brickner et al.

With respect to the newly cited reference to Sommer, this patent does not disclose a track system having intersecting first and second sets of parallel tracks but rather discloses a traditional bridge crane movement wherein fore and aft motion is controlled by the bridge being movable along rails 120 and 122 that are provided on opposite sides of the deck, see Fig. 4. Transverse motion of the transfer units is accomplished using first and second trolleys 160 and 170, see the description at column 5 beginning at line 35 of the reference and Fig. 4. Thus, Sommer does not disclose intersecting first and second sets of parallel tracks as is taught in the present invention. Therefor, even if one were to combine the bridge crane system of Sommer with Brickner et al, the resultant system would not anticipate

applicants' system nor be operative in the same manner.

In view of the foregoing, it is respectfully submitted that claims 1, 6, 7, 9, 12, 18, 21 and 22 are distinguishable over Brickner et al and the proposed combinations and should therefore be in condition for formal allowance.

Reconsideration of the rejection of claims 19 and 23 over the combination of Brickner et al, Yamashita, Sommer and Lucking is also requested. As stated above, it is not believed that Brickner et al could be obviously modified to include the structure of Yamashita or that of Sommer. Therefore, even if one of ordinary skill in the art would use the elements 16 of Lucking the overall system of the present invention as claimed would not be anticipated or made obvious. Further, in claim 19, the guide arms have two guide walls that are oriented approximately perpendicularly wherein the lower portions are flared outwardly, and no such structure is shown in Lucking.

In view of the foregoing, adding the hoists of Shiota with the proposed combination of Brickner et al, Yamashita, and Sommer would also not anticipate the invention set for in the combination of claims 7, 8, 18 and 20.

The combination rejection of claims 24 and 25 over Brickner et al and Nordstrom has also been considered, however, even if one were to combine the elements of the cell structure shown in Nordstrom with Brickner et al, the grid system would not permit the movement of transfer units that is possible and claimed with respect to the present invention. There is no X-Y grid rail system on the ship that permits a transfer unit to selectively move in an X-Y plane directly over a plurality of tiered storage cells, as is taught by the present invention and as claimed in claim 24. As previously noted, the grid system of Brickner et al is based upon movement of transfer unit along rail or track loops that transition in direction through curved switches provided at the ends of longitudinal runs of the rails. Such a system is not compatible within a hull of a ship or the like. The system of Nordstrom includes on board traveling bridge cranes 82 that are movable along tracks 80 that only extend longitudinally of a ship as is thus similar to the structure of Sommers. There is no intersecting of tracks in an "X-Y" plane directly over vertical cells, as taught by the present invention. In view of the foregoing, reconsideration of the rejection of claims 24 and 25 is requested.

Thus, the cited art does not teach or disclose the structure and operable characteristics of the present invention nor provide

for the operable and structural advantages as discussed in the present application. The present invention provides an overhead system that provides for maximum use of overhead space and movement of transfer units relative to cells in which containers may be stacked. Further, one or more transfer vehicles may operate at the same time using the system of the present invention and can operate above any of the storage tiers defined by the cells of the present invention while moving directly above the cells in an "X-Y" plane.

Favorable consideration and allowance of the claims is respectfully solicited. It is requested that the Examiner grant a personal interview with the undersigned attorney if the Examiner continues to reject the claims. This interview is requested prior to the Examiner taking any action which may be considered Final.

Respectfully Submitted,

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